



Use Cases and Pilot projects for the COMPOSE platform

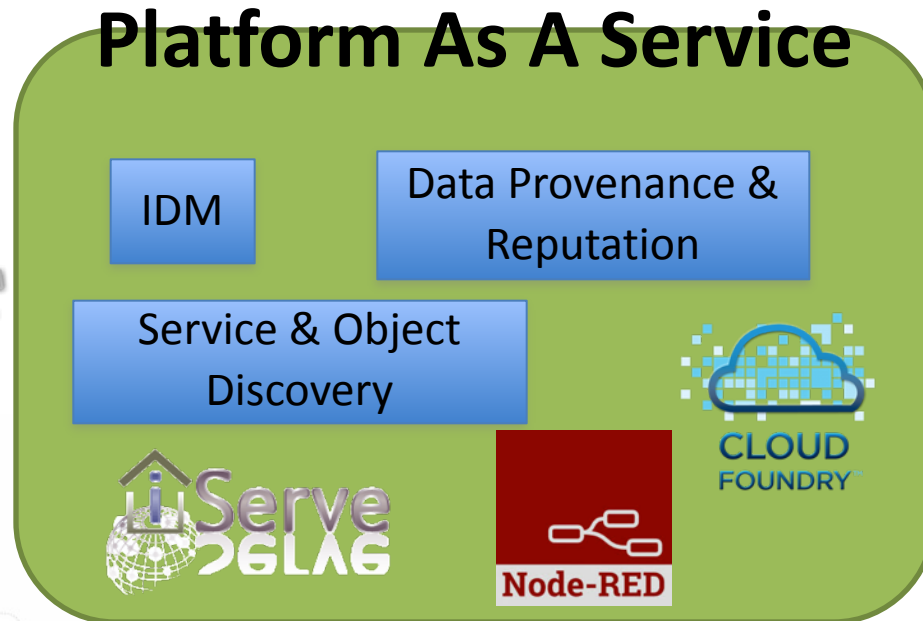


Charalampos Doukas, CREATE-NET
@buildingiot

COMPOSE Platform

Platform As A Service

Devices



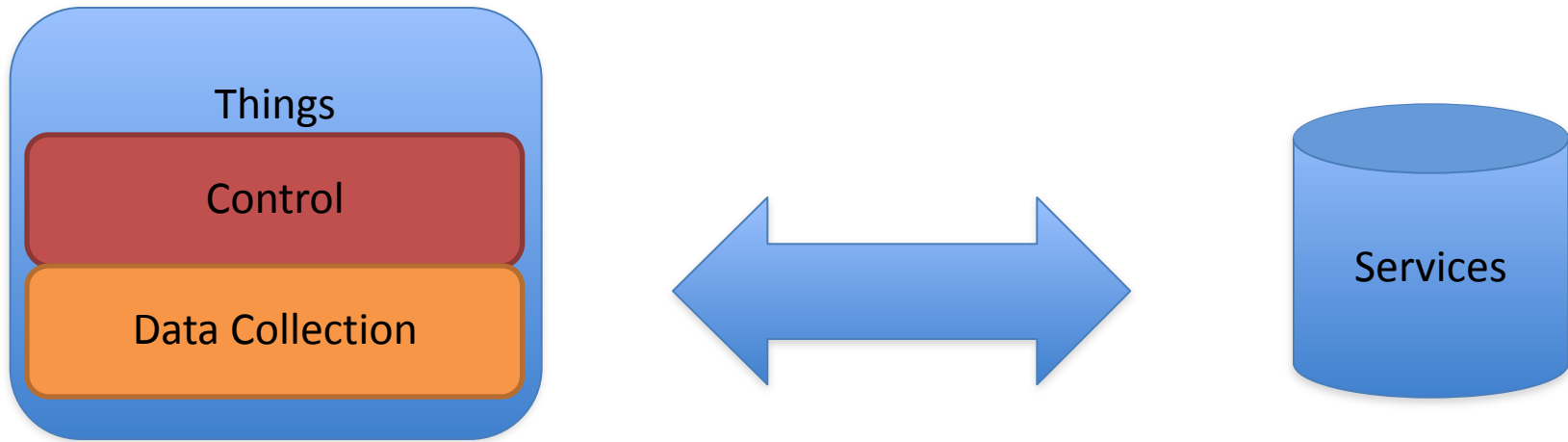
Data Management

Developers Portal

IoT Marketplace

Ext. Services

Need for Web of Things



Need for Web of Things

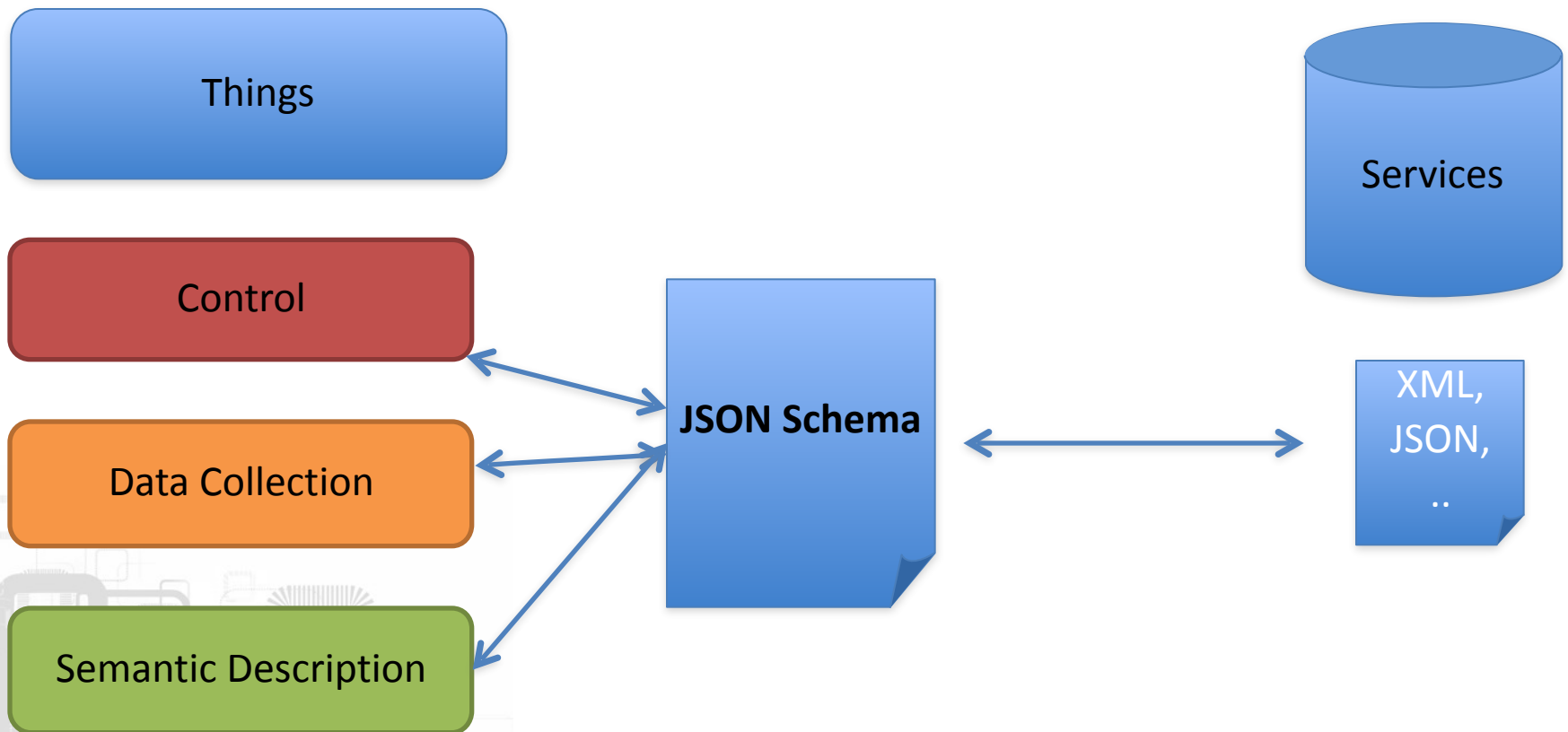
Main features for IoT

- Global access
- Discovery
- Security

Special features

- Plethora of IoT/M2M protocols:
 - MQTT, CoAP, XMPP, STOMP, HTTP
- More than GET requests:
 - Push data
 - Subscribe to updates

The Challenges



The COMPOSE Solution

The Web (Service) Object

```
{
  "name": "Phone",
  "description": "COMPOSE phone",
  "URL": "Web Object URL ",
  "streams": {
    "position": {
      "channels": {
        "location": {
          "type": "geo_point",
          "unit": "degrees"
        }
      },
      "description": "GPS outdoor location",
      "type": "sensor"
    }
  },
  "customFields": {},
  "actions": [],
  "properties": []
}
```

Use Case 1 – Smart Spaces

What

- Smart Retail Analytics
- BLE Beacons on shopping carts
 - Real time indoor positioning
- Retail products -> COMPOSE SO {description, offers, etc.}
- Smartphones -> SO
- REST API -> product info, subscriptions: cart location updates, user phones-> actuation

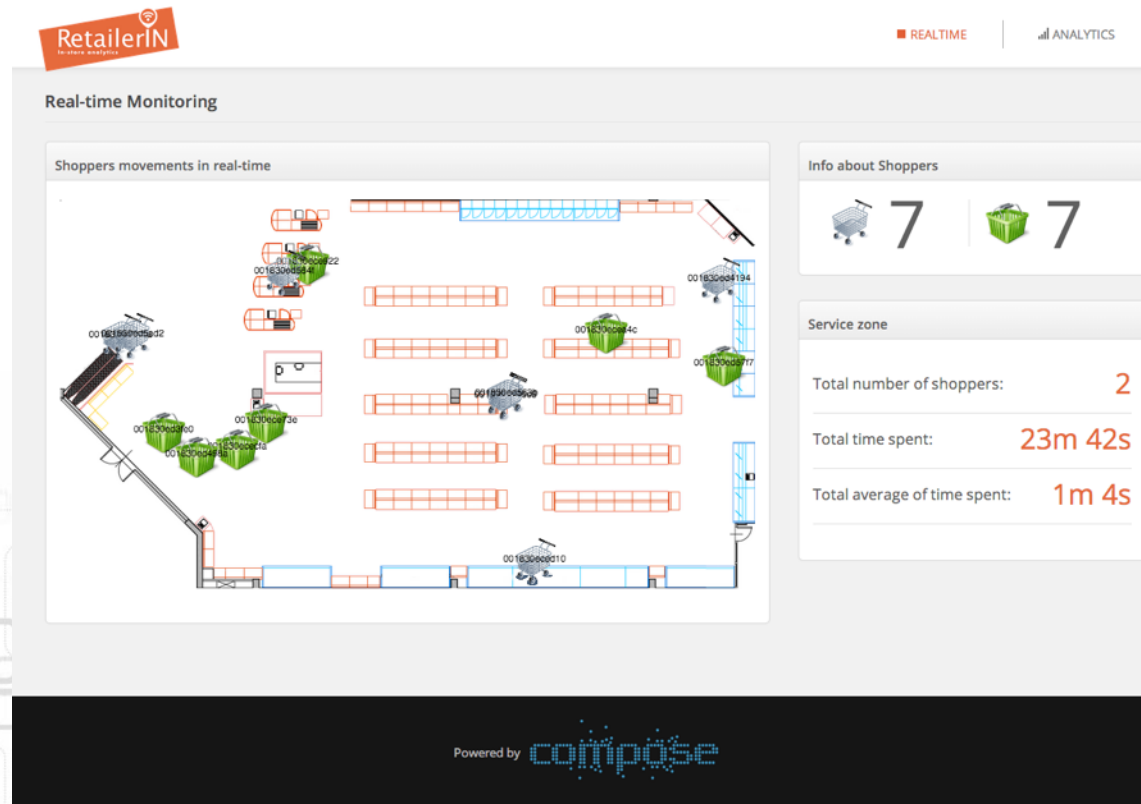
Where

- Coop Supermarket in Trento, North Italy
- 30 shopping carts
- 200 products

Use Case 1 – Smart Spaces

What

Where



Use Case 2 – Smart City

What

- Optimized Car pooling:
 - Car-route availability
 - Grouping of people
 - Motivation: reservation of parking spots
- Users, Cars, Routes, Parking spots -> Service Objects
- REST API -> Polling for information or subscribing for updates

Where

- City of Tarragona, Spain
- University Campus
- Abertis Smart City sensors

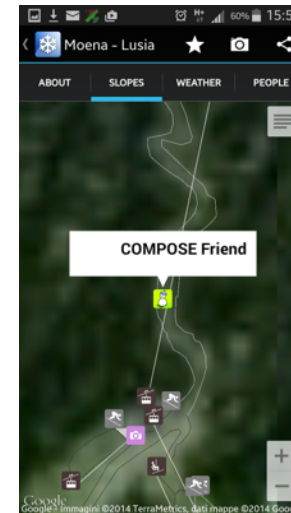
Use Case 3 – Smart Territory

What

- Ski information app
 - Aggregation of OpenData sensors (>2000 sensor data)
 - XML based
 - Social features: real time friend tracking, messaging
- OpenData sensors -> SO, smartphones->SO

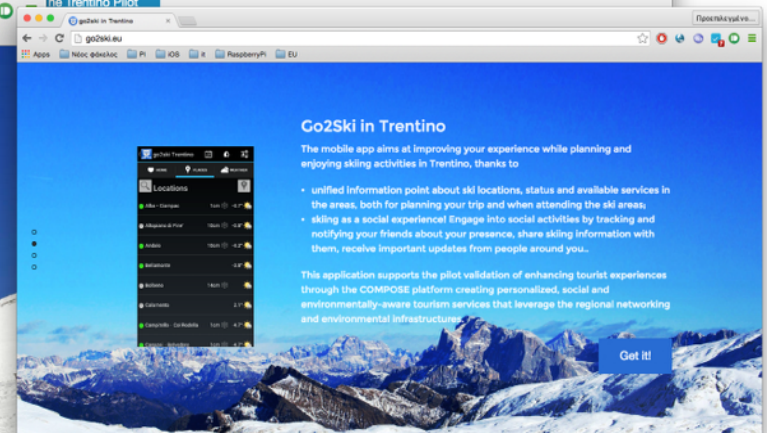
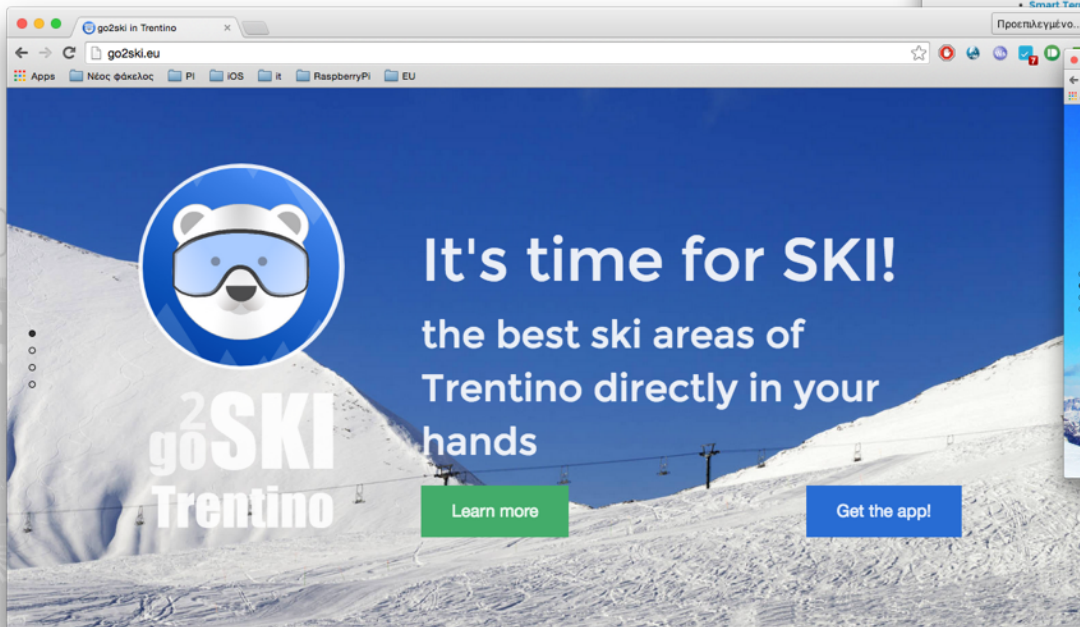
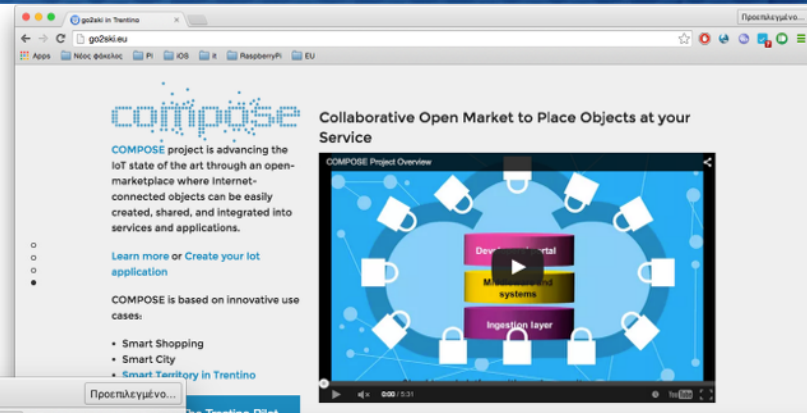
Where

- Trentino region, North Italy
- > 50 Ski resorts
- >60 users



Use Case 3 – Smart Territory

What
<http://go2ski.eu>



Charalampos Doukas

Researcher

- Information & Communication Systems Engineer
- PhD in Health Informatics
- Senior Researcher in CREATE-NET, Italy
- Technical manager COMPOSE Project

compose

Maker



- IoT Blogger
 - Many DIY IoT Projects
- Workshops (Makerland, Makerfaire...)
- Author
 - Building Internet of Things with the Arduino
- Consultancy

